

A visualization of a set of related data items is accomplished by ranking a plurality of secondary data items with respect to their relationship to a principal data item. The set of related data items may be stored in any form, including, for example, as a relational database, an object database, or an XML document. The related items display names can be formatted and ranked according to the properties of the item, so as to avoid duplication and information overload for the user. The ranked data can be displayed along curved segments in a graphical chart, so as to allow convenient visualization of the data and the data's relationship to the principal item that may be prominently displayed at the center of the chart. The visualization of data sets containing a large number of items from data sets is enabled, while respecting the size constraints of the display and maintaining an optimal level of user comprehension. The visualization has the property that subsets of items in a data set relate to each other, and the relationships between items have a value associated with each other. Local rankings of the relationships between terms are established, by ranking items that relate to another. Next, a visualization is generated in the form of a graphical chart, by presenting results separately for each item in a predetermined data set and adjusting the presentation to avoid information overlap and overload. Separate charts for each item of the data set can be presented. Further, closeness is expressed by proximity of items along a curved segment, which are connected or which emanate from a selected position. To enhance the clarity of the visualization to avoid information overlap and overload, the items related to a particular item are grouped by strength of affinity. Each related item is individually spaced on the affinity chart, with each item being placed in a non-overlapping position. Items with large numbers of

5 related items are presented with multiple affinity charts. In the case of multiple affinity charts, a first affinity chart visualizes a set of most strongly related items. Next or subsequent related affinity charts visualize less strongly related items. Color and shading gradations and curve thickness gradations are selectively employed to emphasize the curve's role in conveying affinity strength. Items are placed so they do

10 not overlap or crowd each other. Arbitrarily large data sets are visualized using low and localized computational resources.